

Rejection Under 35 U.S.C. 103(a) Over Applicant's Disclosure in View of Kamimura

Claims 1-4, 13-14 and 18-21 are rejected under 35 U.S.C. 103(a) as being obvious over the Applicant's disclosure in view of Kamimura (JP 2000-275629). Applicant traverses.

Distinctions of the invention over the Applicant's disclosure and Kamimura are of record in the application. The Examiner uses the related art discussed in the specification for teachings pertaining to conventional elements of a liquid crystal display. The Examiner turns to Kamimura for teachings pertaining to black matrices. Figure 1 of Kamimura shows a black matrix formed on an upper part of a lower substrate 1, and a polarizing plate 7 is formed on a lower part of the substrate 1.

Kamimura fails to teach that a polarizer is formed from a cholesteric liquid crystal. Both the conventional art in the specification and Kamimura fail to disclose or suggest the arrangement of the CLC polarizer 150 and the black matrix 152, and how this arrangement affects the reflectance and transmittance properties of the display. In order to better understand this interplay between the CLC polarizer and the black matrix, Figure 4 of the application is reproduced below.

claim 18-19

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7/11/00

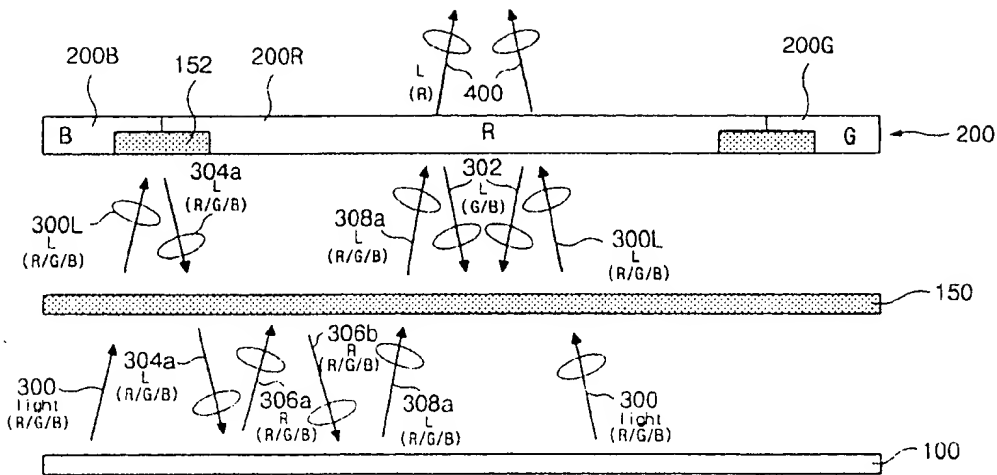


FIG. 4

As shown in Figure 4, the CLC polarizer 150 serves to transmit the left-handed circularly polarized light and the CLC black matrix 152 serves to reflect the left-handed circularly polarized light, and vice-versa. That is, the CLC black matrix has light reflecting/transmitting characteristics fundamentally different from that of the CLC polarizer. Due to the characteristics of a cholesteric liquid crystal and the reciprocal action with the CLC polarizer 150, the CLC layer 152 acts as a black matrix in the present invention. This behavior is neither disclosed nor suggested by the conventional art in the Applicant's disclosure for Kamimura.

A typical operation of the device is shown when light 300 generated from a backlight device passes through the CLC polarizer

150 where the visible wavelengths are converted into left-handed circularly polarized light 300L. This left-handed circularly polarized light 300L will either reach the black matrix 152 or the color filter 200 (R, B or G). The filters 200 transmit only the appropriate R, B, or G wavelengths, for example, red left-handed circularly polarized light 400.

On the other hand, the left-handed circularly polarized light 300L can reach the black matrix 152 to be reflected. This reflected left-handed circularly polarized light 304a re-enters the CLC polarizer 150 to pass without any polarization shift. This light 304a is then reflected by the reflective plate 100 where its polarization is inverted due to the mirror effect. After more reflections and inversions, the light finally reaches the color filters 200 as left-handed circularly polarized light 308a.

In comparison, neither the conventional art in the Applicant's disclosure nor Kamimura disclose or suggest a liquid crystal display capable of this type of functionality. Thus, a *prima facie* case of obviousness has not been made over the Applicant's conventional art and Kamimura. Accordingly, this rejection is overcome and withdrawal thereof is respectfully requested.

Interview with the Examiner

Applicant thanks the Examiner for graciously telephonically discussing the application with the Applicant's representative on

January 22, 2003. In accordance with the Examiner's suggestion, this Request for Reconsideration has been submitted prior to conducting a personal Interview. If the Examiner feels that this Request for Reconsideration fails to adequately clarify the patentability of the present invention over the Applicant's disclosure and Kamimura, the Examiner is respectfully requested to contact the Applicant's representative immediately in order to arrange an Interview.

Conclusion

The Examiner is respectfully requested to enter this Reply After Final in that it raises no new issues. Alternatively, the Examiner is respectfully requested to enter this Reply After Final in that it places the application in better form for Appeal.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any


overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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